

INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB2004/001418

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G01N33/533 C07D209/56 C07D333/02 C07B61/00 A61K38/25

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07B C07D G01N A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, CHEM ABS Data, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	HEITHIER, HELMUT ET AL: "Synthesis and Properties of Fluorescent .beta.-Adrenoceptor Ligands" BIOCHEMISTRY, CODEN: BICHAW; ISSN: 0006-2960, vol. 33, no. 31, 1994, pages 9126-9134, XP002298679 the whole document	1-18, 20-22, 26,27, 29, 31-37, 40-43
X	J.C. MCGRATH ET AL: "Viewing adrenoceptors: past, present and future; commentary and a new technique" PHARMACOLOGY COMMUN, vol. 6, no. 1-3, 1995, pages 269-279, XP009037236 page 275 - page 278	1-18, 20-22, 26,27, 31-37, 40-43

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☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"Z" document member of the same patent family

Date of the actual completion of the international search

5 October 2004

Date of mailing of the international search report

22.12.2004

Name and mailing address of the ISA

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	S.J. BRIDDON ET AL: "Application of fluorescence correlation spectroscopy to the measurement of agonist binding to a G-protein coupled receptor at the single cell level" FARADAY DISCUSSIONS, vol. 126, 12 September 2003 (2003-09-12), pages 197-207, XP009037298 the whole document	1-18, 20-22, 26,27, 29, 31-37, 40-43
P,X	J.G. BAKER ET AL: "Pharmacology and direct visualization of BODIPY-TMR-CGP: A long-acting fluorescent beta2-adrenoceptor agonist" BRITISH JOURNAL OF PHARMACOLOGY, vol. 139, no. 2, May 2003 (2003-05), pages 232-242, XP002298676 the whole document	1-18, 20-22, 26,27, 29, 31-37, 40-43
P,X	S.J. BRIDDON ET AL: "Quantitative analysis of the formation and diffusion of A1-adenosine receptor-antagonist complexes in single living cells" PNAS, vol. 101, no. 13, 16 March 2004 (2004-03-16), pages 4673-4678, XP002298677 the whole document	1-18, 20-22, 26,27, 29, 31-37, 40-43
P,L	& [Online] 15 March 2004 (2004-03-16), Retrieved from the Internet: URL:WWW.PNAS.ORG/CONTENT/VOL101/ISSUE13/> [retrieved on 2004-09-30] *table of contents of PNAS mar 30 2004* *p. 10 shows internet publication date of march 16th 2004*	
X	US 4 774 339 A (KANG HEE C ET AL) 27 September 1988 (1988-09-27) cited in the application the whole document	29
X	US 5 262 545 A (HAUGLAND RICHARD P ET AL) 16 November 1993 (1993-11-16) cited in the application the whole document	29
X	US 5 433 896 A (KANG HEE C ET AL) 18 July 1995 (1995-07-18) cited in the application the whole document	29
X	US 5 451 663 A (KANG HEE C ET AL) 19 September 1995 (1995-09-19) cited in the application the whole document	29
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 187 288 A (KANG HEE C ET AL) 16 February 1993 (1993-02-16) cited in the application the whole document	29
X	US 6 005 113 A (KLAUBERT DIETER H ET AL) 21 December 1999 (1999-12-21) cited in the application the whole document	29
X	US 6 054 557 A (DESJARDINS CLARISSA ET AL) 25 April 2000 (2000-04-25) cited in the application the whole document	29
A	EP 0 808 829 A (NISSHIN SPINNING) 26 November 1997 (1997-11-26) the whole document	1-22, 24-27, 29, 31-37, 40-43
A	OAKLEY R H ET AL: "THE CELLULAR DISTRIBUTION OF FLUORESCENTLY LABELED ARRESTINS PROVIDES A ROBUST, SENSITIVE, AND UNIVERSAL ASSAY FOR SCREENING G PROTEIN-COUPLED RECEPTORS" ASSAY AND DRUG DEVELOPMENT TECHNOLOGIES, MARY ANN LIEBERT, NEW YORK, NY, US, vol. 1, no. 1-1, November 2002 (2002-11), pages 21-30, XP001181634 ISSN: 1540-658X the whole document	1-22, 24-27, 29, 31-37, 40-43
A	M.-P- FAURE ET AL: "Synthesis of a biologically active fluorescent probe for labeling neurotensin receptors" THE JOURNAL OF HISTOCHEMISTRY AND CYTOCHEMISTRY, vol. 42, no. 6, 1994, pages 755-763, XP002298678 the whole document	1-22, 24-27, 31-37, 40-43

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4774339	A	27-09-1988	NONE	
US 5262545	A	16-11-1993	US 5364764 A	15-11-1994
US 5433896	A	18-07-1995	US 5723218 A	03-03-1998
US 5451663	A	19-09-1995	US 5274113 A	28-12-1993
			US 5723218 A	03-03-1998
			AT 161871 T	15-01-1998
			CA 2122627 A1	13-05-1993
			DE 69223985 D1	12-02-1998
			DE 69223985 T2	16-07-1998
			EP 0612336 A1	31-08-1994
			WO 9309185 A1	13-05-1993
US 5187288	A	16-02-1993	NONE	
US 6005113	A	21-12-1999	NONE	
US 6054557	A	25-04-2000	US 5824772 A	20-10-1998
			US 5693679 A	02-12-1997
			WO 9801472 A1	15-01-1998
			EP 0920453 A1	09-06-1999
			US 6815423 B1	09-11-2004
			US 6821952 B1	23-11-2004
			US 6680367 B1	20-01-2004
			US 6677430 B1	13-01-2004
			AU 6352296 A	18-02-1997
			WO 9631531 A2	10-10-1996
			WO 9704311 A2	06-02-1997
			EP 0820466 A2	28-01-1998
EP 0808829	A	26-11-1997	DE 69720589 D1	15-05-2003
			DE 69720589 T2	30-09-2004
			EP 0808829 A1	26-11-1997
			JP 10287870 A	27-10-1998
			US 5856479 A	05-01-1999

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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
Although claims 32-35 and 43 (in part) are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-22, 24-27, 29, 31-37, 40-42, 43 (in part)

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-22,24-27,29,31-37,40-42,43 (in part)

Library of compounds of formula (I) and the preparation of said library (claims 1-21),
 compounds of formula I and their preparation (claims 22,26,27),
 method for selecting a compound of formula I from a library (claims 24 and 25),
 linker of formula V or V' (claim 29),
 use of a compound of formula I or I' or a library of compounds of formula I (claim 31),
 method for receptor binding or inhibition comprising contacting a compound of formula I or I' with a sample (claims 32-35),
 use of a fluorescent target for the above method (claims 36-37),
 kit comprising a compound of formula I or I' (claims 40-42),
 library, compound, precursor, process, method, target material or kit of claim 43 insofar as they are part of claims 1-22, 24-27, 29,31-37,40-42

2. claims: 23,28,30,43 (in part)

Process for the preparation of a compound of formula IV (claim 23),
 compounds of formula IV or IV' (claim 28),
 kit comprising a compound of formula IV or IV' (claim 30 in part),
 compound, process, kit of claim 43 insofar as they are part of claims 23, 28 or 30

3. claims: 30, 43 (both in part)

kit comprising a linker of formula V or V' (claim 30 in part),
 kit of claim 43 insofar as it is part of claim 30

4. claims: 38, 39 and 43 (in part)

cell surface GPCR and CHO cells expressing these
